భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్
भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

IIT Hyderabad Launches India's First MTech in AI/ML for Chemical Engineering, & Introduces Computational Chemical Engineering Program

Highlights:
- IIT Hyderabad launches two new MTech programs, namely, AI/ML in Chemical Engineering and Computational Chemical Engineering.
- Programs aim to equip Engineers with skills in AI, Data Science, and advanced computational modelling for modern process industries.
- Curriculum combines Chemical Engineering fundamentals with Machine Learning, simulations, and data-driven Engineering.
- Graduates will be prepared for emerging roles across Chemicals, Pharmaceuticals, Energy, and Digital manufacturing sectors.

Hyderabad, March 12, 2026: The Department of Chemical Engineering at Indian Institute of Technology Hyderabad (IITH) has launched two cutting-edge Postgraduate programs, MTech in AI/ML in Chemical Engineering and MTech in Computational Chemical Engineering, aimed at preparing Engineers for the rapidly evolving digital and Computational landscape of modern process industries.

The MTech in AI/ML in Chemical Engineering integrates Chemical Engineering fundamentals with Artificial Intelligence, Machine Learning, and Data-driven modelling. The program will train students to apply advanced algorithms and analytics to problems such as Process optimization, Materials discovery, Reaction Engineering, Smart Manufacturing, and Sustainable Energy systems.

The MTech in Computational Chemical Engineering focuses on multiscale modelling and simulation of complex chemical processes. The curriculum blends Chemical Engineering with Mathematics and Computing, covering areas such as Computational Thermodynamics, Computational Fluid Dynamics, Molecular modeling, Reaction modeling, and Numerical optimisation.

Both programs emphasize research, hands-on Computational training, and industry interaction, enabling graduates to pursue careers in sectors such as Chemicals, Pharmaceuticals, Energy, Advanced materials, and Digital manufacturing.

According to Prof. B S Murty, Director of Indian Institute of Technology Hyderabad, the new programs reflect the Institute's commitment to preparing Engineers for the future. He added "Engineering innovation today is increasingly driven by Data, Computation, and Intelligent systems. The future of Engineering lies at the intersection of domain expertise and Digital intelligence. These new MTech programs in AI/ML and Computational Chemical Engineering represent IIT Hyderabad's vision to train Engineers who can harness data, computation, and fundamental science to create transformative technologies for sustainable industry and society. He also added that India needs AI programs to be built on Engineering foundations, rather than standalone AI programs for Viksit Bharat to be achieved."

Prof. Chandra Shekhar Sharma, Head of the Department of Chemical Engineering added "Chemical Engineering is rapidly evolving with the integration of Artificial Intelligence, Advanced simulations, and Data-driven decision-making. Through these programs, we aim to prepare Engineers who can not only understand complex Chemical systems but also design intelligent and computationally efficient solutions for next-generation process industries. The new programs reflect

the Department's commitment to integrating Chemical Engineering fundamentals with emerging Digital technologies, including Artificial Intelligence, Machine Learning, Advanced Computational modelling, and data-driven Engineering. Admissions for the both programs will begin in the upcoming academic cycle and will combine rigorous coursework with industry exposure and research-driven thesis work."

The programs will admit students through standard postgraduate admission channels, Common Online Admission Portal (COAP) including GATE-based selection for Ministry of Education seats, with additional self-sponsored seats.

About IIT Hyderabad:
IITH, established in 2008, has reached a respectable position in academics, research, technology development, and Start-ups in a short span of 17 years. In the National Institutional Ranking Framework (NIRF-2025), IITH is ranked 7th among Engineering institutes (crossing a first-generation IIT this year), and is ranked 6th in Innovation, while it has maintained its rank within the top 10 Engineering Institutes ever since NIRF was launched. IITH is ranked 664th and 270th in the QS World and Asian University Rankings 2026, respectively (among the top 10% of global institutions in citations per faculty). IITH secured 46 positions by 31 faculties in the Global Top 2% Scientists World list 2025 released by Stanford University (SU) in collaboration with Elsevier across two categories. IITH has been striving for excellence with a motto of "Inventing & Innovating in Technology for Humanity (IITH)".

With 340+ full-time Faculty, 350+ non-teaching Staff and 5,760+ Students (PG+PhD students accounting for about 60%), IITH has a strong research focus with 5390+ R&D Projects worth of Rs. 1730 Cr (Rs. 335+ Cr funding in 2024-25, i.e. Rs. 1+ Cr per Faculty, one of the largest per capita funding among IITs), 13,200+ Publications, 2,55,000+ Citations, 158 h-index, 710+ Patents (250 Patents in 2025, i.e., 0.75 patents per faculty in 2025, making it possibly the best Indian institute in terms of patents filed per faculty in a year), and about 340+ Start-ups (that have generated 1100+ jobs with a revenue of Rs. 1500+ Cr).

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